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SPACELABS, INC.

MONTHLY PROGRESS REPORT NO. 2

Contract No. DA18-108-AMC-228(A)

Dynamic Measurements of Protective Masks

This report covers the period from 1 August to 31 August 1963.

General

Mr. R. J. Redd (Edgewood Project Officer) visited Spacelabs, Inc. during the last week in August. During his visit, various phases of the program were discussed in detail and preliminary plans were established for solving the problem of measuring the flow rate through the oronasal mask.

During this period, Spacelabs, Inc. accepted the resignation of Mr. Dale Bredon who was the assigned Project Engineer for this contract, Effective September 1, 1963, project responsibility has been assigned to Mr. Herb Seal who is Chief Project Engineer for Spacelabs.

Work Performed During This Period

The design of the receiving console was started and is scheduled for completion by 13 September 1963. All parts are expected to be on hand for fabrication of this console by 14 October with a completion date planned for 21 October. Spacelabs expects to receive the GFE discriminators and tape recorder by 14 October. This equipment is required by 14 October in order that it can be integrated into the receiving console system prior to the start of systems tests (laboratory and field) scheduled to start on 21 October.

The Nems Clarke receivers were tested for susceptibility to spurious radiations and it was determined that the images or spurious responses occurred 21.4 megacycles away from the center frequency. Based on these tests, it was determined that spurious transmitter radiation must be in conformance with MIL-I-26600 and that the center frequency of each transmitter should be at least 2 megacycles

apart. The transmitter frequencies selected are as follows:

226.2 megacycles
228.2 "
230.9 "
232.9 "
235.5 "
250.7 "
253.1 "
255.1 "
257.3 "
259.7 "

Ten transmitters were ordered from Teledynamics, Type 1061AY to cover the above range of frequencies.

Mr. Redd requested that we investigate the possibility of packaging the necessary electronics and pressure transducers on the oronasal mask rather than in the gas mask nose cup to facilitate donning the mask.

The design of the mask and back pack electronics has been started and is presently scheduled for completion on 30 September. One problem area is to select the pressure transducer required to measure flow through the oronasal mask. Mr. Redd indicated that he would have the pressure range established within two weeks and inform us of the required pressure range.

Work to be Performed During the Next Period

1. Complete gas mask electronics design.
2. Complete the back pack electronics design.
3. Complete the receiving console design.